

WHAT IS CLAIMED IS:

1. A charge transfer element, comprising:

a reverse conductive type semiconductor region formed in

5 one major surface of one conductive type semiconductor
substrate;

a channel region of the one conductive type formed in the
semiconductor region so as to extend in one direction;

10 a plurality of transfer electrodes formed on the
semiconductor substrate so as to intersect the channel region;

a capacitance formed continuous from the channel region
in the semiconductor region; and

15 an output transistor having a source and a drain both
formed in the semiconductor region, and a gate connected to
the capacitance,

wherein

the semiconductor region where the output transistor is
formed exhibits an dopant density profile in a depth direction
of the semiconductor substrate, which has a maximum dopant
20 density value relative to a middle region of the semiconductor
region.

2. The charge transfer element according to claim 1, wherein
dopant density of the semiconductor region where the output
25 transistor is formed is lower in a surface region rather than
in the middle region along the depth direction of the
semiconductor substrate.

3. The charge transfer element according to claim 1, further comprising:

a load transistor serially connected to the output transistor, and

5 wherein

the load transistor is formed in the semiconductor region where the output transistor is formed.

4. The charge transfer element according to claim 2, further
10 comprising:

a load transistor serially connected to the output transistor, and

wherein

the load transistor is formed in the semiconductor region
15 where the output transistor is formed.